



IFWO

## RAW SEQUENCE LISTING

DATE: 08/30/2004

PATENT APPLICATION: US/10/773,904

TIME: 14:51:04

Input Set : N:\Crif3\RULE60\10773904.raw.txt

Output Set: N:\CRF4\08302004\J773904.raw

1 <110> APPLICANT: Beck, Jim  
 2 Barnett, Jason  
 3 <120> TITLE OF INVENTION: Detection of Fusarium Species infecting Corn Using the  
 4 Polymerase Chain Reaction  
 5 <130> FILE REFERENCE: 60055  
 6 <140> CURRENT APPLICATION NUMBER: US/10/773,904  
 7 <141> CURRENT FILING DATE: 2004-02-06  
 8 <150> PRIOR APPLICATION NUMBER: US/09/961,755  
 9 <151> PRIOR FILING DATE: 2001-09-24  
 10 <160> NUMBER OF SEQ ID NOS: 24  
 11 <170> SOFTWARE: PatentIn version 3.0  
 13 <210> SEQ ID NO: 1  
 14 <211> LENGTH: 682  
 15 <212> TYPE: DNA  
 16 <213> ORGANISM: *Fusarium verticillioides* (syn. *F. moniliforme*)  
 17 <400> SEQUENCE: 1

18	gctaacggct gaactggcaa cttggagaag tggcaagtct tccagtatgg ggagcaaaac	60
19	agctatgggt caagtccgat atcttttagga gaagtcttat tgtgagggcg agttttataa	120
20	caccatagga ctggccgccc catatgaaaa gattatatta gaattgaatg aagctttggt	180
21	tatatattga taatgacagt atatatatcg tgtcttgact aattgcgtgc cagcagtcgc	240
22	ggtaatacgt aagagactag tgttattcat ctttaattag tttaaagggt acccagacgg	300
23	tcaatatagc ttataaaatg ttagtacttg actagagttt tatgtaagag ggcagtactt	360
24	gaggaggaga gatgaaattt cgtgatacca aagggactct gtaaaggcga aggcagccct	420
25	ctatgtaaaa actgacgttg aaggacgaag gcacagagaa caaacaggat tagataccca	480
26	agtagtcttt gcagtaaatg atgaatgccca taggttagat gggtaggtta gtcgtagttg	540
27	agttagttta gcaaactaat ggattcagac tagtccacca tataatttgg ctataaatga	600
28	aagtgtaaac atttcacctc aagagtaatg tggcaacgca ggaactgaaa tcactagacc	660
29	gtttctgaca ccagtagtga ag	682

31 <210> SEQ ID NO: 2  
 32 <211> LENGTH: 689  
 33 <212> TYPE: DNA  
 34 <213> ORGANISM: *Fusarium proliferatum*  
 35 <400> SEQUENCE: 2

36	gctaacggct gaactggcaa cttggagaag tggcaagtct tccagtatgg ggagcaaaac	60
37	agctatgggt caagtctgat atcttttagga ggggcgaagc tcctcttatt gtgagggcga	120
38	gttatataac accataggac tggccgcccc atatgaaaa attatattag aattgaatga	180
39	agctttgttt atatattgat aatgacagta tatatatcgt gtcttgacta attgcgtgcc	240
40	agcagtcgcg gtaatacgtg agagactagt gttattcatc ttaattaggt ttaaagggtg	300
41	cccagacggt caatatagct tataaaatgt tagtacttga ctagagtttt atgtaagagg	360
42	gcagtacttg aggaggagag atgaaatttc gtgataccaa agggactctg taaaggcgaa	420
43	ggcagccctc tatgtaaaaa ctgacgttga aggacgaagg cacagagaac aaacaggatt	480
44	agatacccaa gtagtctttg cagtaaatga tgaatgccat aggttagatg ggtgggctcg	540
45	tctagttgag ttagtttagc aaactaatga tctagacgag cccaccgtat atttggtcta	600

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46      taaatgaaag tgtaagcatt tcacctcaag agtaatgtgg caacgcagga actgaaatca      660
47      ctagaccgtt tctgacacca gtagtgaag      689
49 <210> SEQ ID NO: 3
50 <211> LENGTH: 726
51 <212> TYPE: DNA
52 <213> ORGANISM: gibberella zeae (syn. Fusarium graminearum)
53 <400> SEQUENCE: 3
54      gctaacggct gaactggcaa cttggagaag tggcaagtct tccagtatgg ggagcaaaca      60
55      gctatgggtc aagcccgata cctttaagag aagtcttatt gtgagggcga gttgtataac      120
56      accatagggc tggccgcccc atatgaaaag attttattag aattgaatga aactttgttt      180
57      atatattgat aatgacagta tatatatcgt gtcttgacta attgcgtgcc agcagtcgcg      240
58      gtaatacgtg agagactagt gttattcatc ttaattaggt ttaaagggtg cccagacggg      300
59      ctatatagct tataaaatgt tagtataaga ctagagtttt atgtaagagg gcagtacttg      360
60      aggaggagag atgaaatttc gtgataccaa agggactctg taaaggcgaa ggcagccctc      420
61      tatgtaaaaa ctgacgttga aggacgaagg cacagagaac aaacaggatt agatacccaa      480
62      gtagtctttg cagtaaatga tgaatgccat aggttagatc tatatttcta ttataataat      540
63      acatttctat tatttattat aaaacgcatt ccttatatag cttcgcgcta taatatattt      600
64      tatatatagt gcagcagaaa tttttgtatc tgggtctataa atgaaagtgt aagcatttca      660
65      cctcaagagt aatgtggcaa cgcaggaact gaaatcacta gaccgtttct gacaccagta      720
66      gtgaag      726
68 <210> SEQ ID NO: 4
69 <211> LENGTH: 690
70 <212> TYPE: DNA
71 <213> ORGANISM: Fusarium subglutinans
72 <400> SEQUENCE: 4
73      gctaacggct gaactggcaa cttggagaag tggcaagtct tccagtatgg ggagcaaaaac      60
74      agctatgggt caagtcgat atcttttagga ggcgcgaagc tcctcttatt gtgagggcga      120
75      gttttataac accataggac tggccgcccc atatgaaaag attatattag aattgaatga      180
76      agctttgttt atatattgat aatgacagta tatatatcgt gtcttgacta attgcgtgcc      240
77      agcagtcgcg gtaatacgtg agagactagt gttattcatc ttaattaggt ttaaagggtg      300
78      cccagacggg caatatagct tataaaatgt tagtacttga ctagagtttt atgtaagagg      360
79      gcagtacttg aggaggagag atgaaatttc gtgataccaa agggactcgg taaaggcgaa      420
80      ggcagccctc taggtaaaaa ctgacgttga aggacgaagg cacagagaac aaacaggatt      480
81      agatacccaa gtagtctttg cagtaaatga tgaatgccat aggttagatc tgagttggta      540
82      gtctagttga gtagttttac taaactaatg atctatacaa gccagcctta gatttgggtc      600
83      ataaatgaaa gtgtaagcat ttcacctcaa gagtaatgtg gcaacgcagg aactgaaatc      660
84      actagaccgt ttctgacacc agtagtgaag      690
86 <210> SEQ ID NO: 5
87 <211> LENGTH: 522
88 <212> TYPE: DNA
89 <213> ORGANISM: Fusarium subglutinans
90 <400> SEQUENCE: 5
91      tccgttggtg aaccagcgga gggatcatta ccgagtttac aactcccaaa cccctgtgaa      60
92      cataccaatt gttgcctcgg cggatcagcc cgctcccggg aaaacgggac ggcccgcag      120
93      aggacccta aactctgttt ctatatgtaa cttctgagta aaaccataaa taaatcaaaa      180
94      ctttcaaca cggatctctt ggttctggca tccgatgaaga acgcagcaaa atgcgataag      240
95      taatgtgaat tgcagaattc agtgaatcat cgaatctttg aacgcacatt gcgcccggca      300
96      gtattctggc gggcatgcct gttcgagcgt catttcaacc ctcaagccca gcttgggtgt      360
97      gggactcgcg agtcaaatcg cggtcccaaa attgattggc ggtcacgtcg agcttcata      420

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98      gcgtagtagt aaaaccctcg ttactggtaa tcgtcgcggc cagcccgtaa aaccccaact      480
99      tctgaatggt gacctcggt caggtaggaa taccgctga ac                          522
101 <210> SEQ ID NO: 6
102 <211> LENGTH: 521
103 <212> TYPE: DNA
104 <213> ORGANISM: Gibberella zeae
105 <400> SEQUENCE: 6
106      tccgttggtg aaccagcgga gggatcatta ccgagtttac aactcccaaa cccctgtgaa      60
107      cataccttat gttgcctcgg cggatcagcc cgcgccccgt aaaaagggac ggcccgccgc      120
108      aggaacccta aactctgttt ttagtggaac ttctgagtat aaaaaacaaa taaatcaaaa      180
109      ctttcaacaa cggatctctt ggttctggca tcgatgaaga acgcagcaaa atgcgataag      240
110      taatgtgaat tgcagaattc agtgaatcat cgaatctttg aacgcacatt gcgcccgcga      300
111      gtattctggc gggcatgcct gttcgagcgt catttcaacc ctcaagccca gcttggtggt      360
112      gggagctgca gtctgtctgc actcccaaaa tacattggcg gtcacgtcga gcttccatag      420
113      cgtagtaatt tacacatcgt tactggtaat cgtcgcggcc acgccgttaa accccaactt      480
114      ctgaatggtg acctcggtac aggtaggaa acccgctgaa c                          521
116 <210> SEQ ID NO: 7
117 <211> LENGTH: 534
118 <212> TYPE: DNA
119 <213> ORGANISM: Fusarium proliferatum
120 <400> SEQUENCE: 7
121      tccgttggtg aaccagcgga gggatcatta ccgagtttac aactcccaaa cccctgtgaa      60
122      cataccaatt gttgcctcgg cggatcagcc cgctcccggg aaacacgggac ggcccgccag      120
123      aggacccta aactctgttt ctatatgtaa cttctgagta aaaccataaa taaatcaaaa      180
124      ctttcaacaa cggatctctt ggttctggca tcgatgaaga acgcagcaaa atgcgataag      240
125      taatgtgaat tgcagaattc agtgaatcat cgaatctttg aacgcacatt gcgcccgcga      300
126      gtattctggc gggcatgcct gttcgagcgt catttcaacc ctcaagcccc cgggtttggt      360
127      gttggggatc ggcgagccct tgcggcaagc cgccccgaa atctagtggc ggtctcgctg      420
128      cagcttccat tgcgtagtag taaaaccctc gcaactggta cgcggcgcgg ccaagccggt      480
129      aaacccccaa cttctgaatg ttgacctcgg atcaggtagg aatacccgtc gaac          534
131 <210> SEQ ID NO: 8
132 <211> LENGTH: 522
133 <212> TYPE: DNA
134 <213> ORGANISM: Fusarium verticillioides (syn. F. moniliforme)
135 <400> SEQUENCE: 8
136      tccgttggtg aaccagcgga gggatcatta ccgagtttac aactcccaaa cccctgtgaa      60
137      cataccaatt gttgcctcgg cggatcagcc cgctcccggg aaacacgggac ggcccgccag      120
138      aggacccta aactctgttt ctatatgtaa cttctgagta aaaccataaa taaatcaaaa      180
139      ctttcaacaa cggatctctt ggttctggca tcgatgaaga acgcagcaaa atgcgataag      240
140      taatgtgaat tgcagaattc agtgaatcat cgaatctttg aacgcacatt gcgcccgcga      300
141      gtattctggc gggcatgcct gttcgagcgt catttcaacc ctcaagccca gcttggtggt      360
142      gggactcgcg agtcaaatcg cgttcccaaa attgattggc ggtcacgtcg agcttccata      420
143      gcgtagtagt aaaaccctcg ttactggtaa tcgtcgcggc cagcccgtaa aaccccaact      480
144      tctgaatggt gacctcggt caggtaggaa taccgctga ac                          522
146 <210> SEQ ID NO: 9
147 <211> LENGTH: 19
148 <212> TYPE: DNA
149 <213> ORGANISM: Artificial sequence
150 <220> FEATURE:

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151 <221> NAME/KEY: misc_feature
152 <222> LOCATION: (1)..(19)
153 <223> OTHER INFORMATION: Primer ITS1
154 <400> SEQUENCE: 9
155     tccgtaggtg aacctgcgg                                     19
157 <210> SEQ ID NO: 10
158 <211> LENGTH: 20
159 <212> TYPE: DNA
160 <213> ORGANISM: Artificial sequence
161 <220> FEATURE:
162 <221> NAME/KEY: misc_feature
163 <222> LOCATION: (1)..(20)
164 <223> OTHER INFORMATION: Primer ITS2
165 <400> SEQUENCE: 10
166     gctgcgttct tcatcgatgc                                     20
168 <210> SEQ ID NO: 11
169 <211> LENGTH: 20
170 <212> TYPE: DNA
171 <213> ORGANISM: Artificial sequence
172 <220> FEATURE:
173 <221> NAME/KEY: misc_feature
174 <222> LOCATION: (1)..(20)
175 <223> OTHER INFORMATION: Primer ITS3
176 <400> SEQUENCE: 11
177     gcatcgatga agaacgcagc                                     20
179 <210> SEQ ID NO: 12
180 <211> LENGTH: 20
181 <212> TYPE: DNA
182 <213> ORGANISM: Artificial sequence
183 <220> FEATURE:
184 <221> NAME/KEY: misc_feature
185 <222> LOCATION: (1)..(20)
186 <223> OTHER INFORMATION: Primer ITS4
187 <400> SEQUENCE: 12
188     tcctccgctt attgatatgc                                     20
190 <210> SEQ ID NO: 13
191 <211> LENGTH: 21
192 <212> TYPE: DNA
193 <213> ORGANISM: Artificial sequence
194 <220> FEATURE:
195 <221> NAME/KEY: misc_feature
196 <222> LOCATION: (1)..(20)
197 <223> OTHER INFORMATION: Primer FCORN1
198 <400> SEQUENCE: 13
199     gcaacttgga gaagtggcaa g                                     21
201 <210> SEQ ID NO: 14
202 <211> LENGTH: 20
203 <212> TYPE: DNA
204 <213> ORGANISM: Artificial sequence

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205 <220> FEATURE:
206 <221> NAME/KEY: misc_feature
207 <222> LOCATION: (1)..(20)
208 <223> OTHER INFORMATION: Primer FCORN2
209 <400> SEQUENCE: 14
210     aagtccttcca gtatggggag                                20
212 <210> SEQ ID NO: 15
213 <211> LENGTH: 20
214 <212> TYPE: DNA
215 <213> ORGANISM: Artificial sequence
216 <220> FEATURE:
217 <221> NAME/KEY: misc_feature
218 <222> LOCATION: (1)..(20)
219 <223> OTHER INFORMATION: Primer FSUB1
220 <400> SEQUENCE: 15
221     gtccgatatc tttagggaggc                                20
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224 <211> LENGTH: 21
225 <212> TYPE: DNA
226 <213> ORGANISM: Artificial sequence
227 <220> FEATURE:
228 <221> NAME/KEY: misc_feature
229 <222> LOCATION: (1)..(21)
230 <223> OTHER INFORMATION: Primer FSUB2
231 <400> SEQUENCE: 16
232     tcaactagac taccaactca g                                21
234 <210> SEQ ID NO: 17
235 <211> LENGTH: 21
236 <212> TYPE: DNA
237 <213> ORGANISM: Artificial sequence
238 <220> FEATURE:
239 <221> NAME/KEY: misc_feature
240 <222> LOCATION: (1)..(21)
241 <223> OTHER INFORMATION: Primer FSUB3
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243     caaatctaag gctggcttgt a                                21
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246 <211> LENGTH: 20
247 <212> TYPE: DNA
248 <213> ORGANISM: Artificial sequence
249 <220> FEATURE:
250 <221> NAME/KEY: misc_feature
251 <222> LOCATION: (1)..(20)
252 <223> OTHER INFORMATION: Primer FVERT1
253 <400> SEQUENCE: 18
254     tgggtggacta gtctgaatcc                                20
256 <210> SEQ ID NO: 19
257 <211> LENGTH: 20
258 <212> TYPE: DNA

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RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/10/773,904

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TIME: 14:51:05

Input Set : N:\Crf3\RULE60\10773904.raw.txt  
Output Set: N:\CRF4\08302004\J773904.raw

Invalid Line Length:

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:1; Line(s) 3

**VERIFICATION SUMMARY**

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Input Set : N:\Crf3\RULE60\10773904.raw.txt

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